Draft Consolidated Issue Statement List
Draft Consolidated List, April 9, 2001
Oroville Facilities Relicensing (FERC Project No. 2100)

Water Quality and Quantity Resource Issues

W1 Project effects on all designated beneficial uses of the water. The beneficial uses for the Feather River watershed as defined in the Basin Plan include municipal and domestic supply, agriculture, electrical power production, contact recreation, warm-water and cold-water fish spawning, rearing and migration, freshwater habitat, and wildlife habitat. **(Issues Addressed: 1, 6, 10, 24, 25, 30, 31, 32, 37, 40, 46, 47, 48, & 50)**

W2 Project effects on compliance with water quality objectives identified in the Regional Water Quality Control Board (RWQCB) Basin Plan. Specific compliance issues include bacteria, chemical constituents, dissolved oxygen, pH, oil and grease, pesticides, sediment, temperature, toxicity, and turbidity. **(Issues Addressed: 2, 4, 6, 10, 25, 30, 31, 32, 40, 48, & 50)**

W3 Effects of continued operation of the project on the physical, chemical and biological quality of the Feather River, affected tributaries and downstream waters. The project has the potential for direct and indirect effects on aquatic ecosystem health, on recreational opportunity, and on domestic and agricultural water supply. **(Issues Addressed: 3, 10, 24, 25, 30, 31, 32, 33, 40, 46, 48, & 50)**

W4 Effects of the project and its associated recreational facilities, activities and uses on water quality. Proximity of project features and recreational facilities to shoreline and banks of water bodies offers potential for introduction of nutrients and bacterial contaminants to these waters. **(Issues Addressed: 5, 35, 43, 44, & 45)**

W5 Effects of water-based recreation on water quality of project waters. Concerns include MTBE, oils and greases, fuel spills, floating gas tanks, floating septic systems, floating restrooms, houseboat gray water tanks and pump out facilities. **(Issues Addressed: 35, 36, 38, 39, 42, 43, 44, & 45)**

W6 Effect of the project features and operations on sediment deposition and potential impoundment of metals and toxins, including the potential presence and uptake of methyl mercury through the food chain. Lake Oroville, fed by tributaries that have a history of gold mining activity, has potential for accumulation of elemental mercury in its basin sediments. **(Issues Addressed: 7, 12, & 41)**

W7 Effect of project-related land management and watershed management activities (including waste disposal and upland pesticide use) on water quality, slope stability, erosion, sedimentation, channel stability, riparian habitat, fish habitat, and other beneficial uses. **(Issues Addressed: 8, 11, 12, 13, 14, 15, 34, 41, & 46)**

W8 Effect of project features and operations on flows for both impaired and unimpaired hydrology and on natural protective processes (e.g., marshes). **(Issues Addressed: 9, 49, & 50)**

W9 Project effects on thermal stratification and other thermal processes on project waters, including availability of cold water for release in various water year types under current and future operational demands. **(Issues Addressed: 16, 25, & 32)**

W10 Effects of existing and future water releases and operations on water temperatures in the Diversion Pool, Forebay, Afterbay, Oroville Wildlife Area, low-flow section of the river and downstream areas; at the hatchery; and for agriculture. **(Issues Addressed: 17, 25, 28, 29, 32, 40, & 46)**

W11 Present and future project compliance with temperature requirements of the SWP Feather River Flow Constraints and effectiveness of constraints for a) protection of salmonids in the low-flow and high-flow sections of the Feather River; b) hatchery operation; and c) agricultural operations. **(Issues Addressed: 18, 20, 21, 25, & 46)**

W12 Project effects on access to the cold-water pool during below normal water (BN) water years and multiple BN water years under existing and future operational demands, and effectiveness of the Temperature Control Device in providing access. **(Issues Addressed: 19, 22, & 23)**

W13 Effects of hatchery operation on water quality and water temperatures in the Feather River and Afterbay. **(Issues Addressed: 26 & 33)**

W14 Effect of pump-back operations on water quality and water temperatures (in Lake Oroville, Diversion Pool, Forebay, Afterbay, and Oroville Wildlife Area), habitat suitability, and outmigration for salmonids. **(Issues Addressed: 25 & 27)**

W15 Potential for non-project-related toxic spills (e.g., from railroad operations) and effects of toxic spills on project waters (**Issue Addressed: 50**)

W16 Cumulative effects of project operations and other past, present and reasonably foreseeable actions on water quality. **(Issue Addressed: 51)**

FISHERIES ISSUES

F1 Effects of existing and future project operations (including power generation, water storage, ramping rates and releases, pump-back, water levels, and water level fluctuations) during all water year types on the behavior (e.g., migration timing, microhabitat selection, vulnerability to predators), reproduction, survival and habitat of warm- and cold-water fish and other aquatic resources (e.g., macroinvertebrates) in project waters, which include tributaries within the project boundaries (Lake Oroville, Diversion Pool, Fish Barrier Pool, Forebay, Afterbay, Oroville Wildlife Area) and project affected waters. (Issues Addressed: 1, 2, 3, 8, 52, 59, 66, 78, 83, 84, 85, 86, 89, 91, 93, 95, 96, 97)

F2 Effects of existing and future project operations (e.g., pump-back operations, hatchery production, water temperature, etc.), on the establishment, transmission, extent, and control of IHN, BKD, and other significant cold-water and warm-water fish diseases within Lake Oroville and lower river. (Issues Addressed: 4, 5, 48, 49, 59)

F3 Project effects on resident fish species' (e.g., trout and other salmonids and warm-water fish) habitat quantity and quality (including instream flow, sediment, woody debris, water temperature, etc.) and habitat for other aquatic species. (Issues Addressed: 9, 12, 13, 59, 78, 81, 84, 95, 96, 97)

F4 Project effects on resident fish passage, including North Fork Feather River at Big Bend Dam, tributary streams, and project affected waters. (Issues Addressed: 10, 14, 21, 22, 23, 59, 64, 67, 80, 81, 85)

F5 Effects of existing and proposed fisheries management plan(s) and activities on a balanced cold- and warm-water fishery (including stocking levels, hatchery management and production relative to in-river populations, habitat enhancement projects, predator and undesirable species control, and prevention of future introductions (e.g., northern pike), disease, tree stakes and tire removal, and harvest). (Issues Addressed: 15, 18, 19, 44, 47, 52, 58, 63, 65, 70, 73, 79, 91, 92, 95, 96)

F6 Effects of existing and future project operations on sediment deposition, erosion, and recruitment through the system (including downstream sediment supply) and associated changes in water quality

on the quantity and quality of aquatic habitats within project affected waters. (Issues Addressed: 24, 89, 95)

F7 Project effects on interactions, including predation and competition, among lake and tributary fish populations (e.g., land-locked chinook salmon, trout, bass, and other land-locked species) that affect species abundance, growth, reproduction, and survival. (Issues Addressed: 25, 27, 52, 59, 66)

F8 Project effects on resource energy balance in terms of changes in biomass and nutrient dispersal due to loss of anadromous fish carcasses upstream of Lake Oroville (on fish and wildlife). (Issues Addressed: 29, 82)

F9 Hatchery effects (e.g., straying, genetic impacts, harvest rates, disease, temperature requirements, interactions with native fish such as predation and competition) on salmonid populations in the Feather River watershed and other Central Valley tributaries and on ecosystem restoration within project waters and project affected waters. (Issues Addressed: 31, 87, 88, 93, 95, 96, 99)

F10 Effect of existing and future project facilities and operations on anadromous fish habitat and populations (e.g., instream flows, water temperature, ramping rates, riparian habitat, large woody debris, predation, spawning gravels, stranding and desiccation, macroinvertebrate prey base, upstream and downstream passage, rearing conditions). (Issues Addressed: 32, 34, 35, 36, 37, 38, 41, 44, 45, 46, 53, 54, 55, 56, 69, 84, 86, 89, 90, 91, 93, 95, 96, 97)

F11 Compliance of project operations with SWP Feather River Flow Constraints and adequacy of constraints to protect anadromous fish and other aquatic species in the low-flow section and in the river downstream of the Afterbay. (Issues Addressed: 33, 41, 46, 53, 54, 69, 90, 97)

F12 Evaluate existing and reasonably foreseeable future project effects in terms of cumulative impacts on regional fisheries, fish passage, and habitat quality and quantity within project-affected areas. (Issues Addressed: 51, 74, 78, 85, 97, 98)

F13 Effects of existing and future project facilities and operations on fish species listed for protection under the California and/or federal Endangered Species Acts (ESA) and candidate species. (Issues Addressed: 57, 60, 71, 72, 86, 95, 97)

F14 Effects of existing and future project facilities and operations on the levels of recruitment of Feather River salmonids to the ocean population (e.g., sustained production of 20% of the commercial catch). (Issues Addressed: 61, 68)

F15 Evaluate the quantity and quality of existing upstream habitat conditions and potential sources of mortality for anadromous salmonid spawning, rearing, and juvenile emigration. If upstream habitat conditions and constraints (e.g., disease transmission) are considered to be suitable, evaluate the feasibility of alternative methods for providing passage of anadromous salmonids (e.g., fish ladder, fish elevator, bypass channel, trap-and-truck), upstream of Oroville Dam. Assess conflicts and constraints among species and life stages and their habitat, and evaluate, the overall biological benefits to the species and upstream ecosystem (e.g., nutrient transfer). (Issues Addressed: 62, 78, 82, 85)

F16 Effects of existing and future project facilities and operations on the abundance of predators, their seasonal and geographic distribution, the impact of predation mortality on population dynamics of salmonids and other species, and alternatives for predator control and management (including prevention of introductions). (Issues Addressed: 10, 75, 76, 77, 94)

TERRESTRIAL RESOURCE ISSUES

T1 Effects of project features, existing and future operations (including power generation, water storage and releases, ramping rates, pump-back, water levels and water level fluctuations) and maintenance on wildlife and wildlife habitat. Specific concerns include deer winter range, band-tailed pigeon winter habitat, designated emphasis and harvest species, wintering and nesting waterfowl, and

wildlife use of project and project-affected waters. (Issues Addressed: 2, 3, 17, 18, 19, 20, 29, 39, 41, 44, 47, 48, 51, 60, & 63)

T2 Project effects on federal and state listed threatened, endangered and sensitive plant and animal species and the habitat needed to support them. Concerns include, but are not limited to, amphibians, bald eagle foraging habitat, winter roosts, and nesting territories. (Issues Addressed: 4, 7, 8, 11, 12, 13, 15, 16, 17, 19, 20, 21, 22, 25, 38, 46, 54, 57, 60, & 63)

T3 Effects of project operations on floodplains and project water fluctuation zones, including soil stability, wildlife habitat and natural flood control functions, revegetation and restoration opportunities (e.g., red willow planting). (Issues Addressed: 6, 52, 57, & 62)

T4 Project effects on biodiversity (including plant species and communities and wildlife) and ecosystem health and stability. (Issues Addressed: 14, 17, 18, 19, 20, 25, 39, 40, 48, 52, & 63)

T5 Project effects on riparian resources and protection and management of riparian habitat and wetlands (including vernal pools). (Issues Addressed: 23, 24, 34, 35, 37, 39, 49, 53, & 62)

T6 Interagency management coordination; adequacy of management plans and activities and funding f or wildlife management. (Issues Addressed: 26, 50, 55, & 56)

T7 Effects of the project on the introduction, distribution and management of noxious weeds (including aquatic plant species). (Issues Addressed: 30a, 31, 32, 40, 42, & 52)

T8 Effects of the project on the introduction, distribution and management of undesirable non-native wildlife species. (Issue Addressed: 30b)

T9 Effects of project-related recreation facilities, activities (including authorized and unauthorized access and use) and management on nesting and wintering Pacific Flyway waterfowl, other wildlife and plant communities. (Issues Addressed: 61 & 63)

T10 Effects of current and future project features, operations and maintenance on upland habitat (including brood ponds), revegetation and restoration. (Issues Addressed: 63 & 64)

T11 Effects of fire prevention/fuel load control on natural communities. (Issue Addressed: 65)

GEOLOGY, SOILS AND GEOMORPHIC PROCESS ISSUES

G1 Effects of existing and future project operations on natural geomorphic processes. These include physical attributes and functions (e.g., channel morphology, channel stability, sediment transport and deposition, large woody debris recruitment, habitat diversity) and biological resources (e.g., aquatic macroinvertebrates, riparian vegetation) in the low-flow section and in river downstream of Thermalito Afterbay under wet and dry year criteria. (Issues addressed: 3, 4, 5, 6, 7, 9, 10, 12, 19, 23, 24, 25)

G2 Project effects on channel capacity and potential need for more storage/flood protection. Also, see E4. (Issues addressed: 8)

G3 The need to coordinate long-range watershed planning activities with local, state and federal agencies and private landowners (Issues addressed: 14)

G4 Project effects on sediment accumulation upstream of the dam. (Issues addressed: 19, 22)

G5 Cumulative effects of project facilities and operations on sediment movement and deposition (e.g., recruitment of ocean beach sands) and other geomorphic processes (e.g., maintenance of a satisfactory abiotic habitat template). (Issues addressed: 21, 24, 25)